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Motorola, Inc.
Intellectual Property Section
Law Department
1303 E. Algonquin Rd.
Schaumburg, IL 60196

Telephone: (847) 576-3635
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42 Number of Pages (including this page)

Date: July 5, 2005

To: Examiner Perez, A. - Group 2684

Location: United States Patent and Trademark Office

Fax No.: 703-872-9306

From: Steven A. May (Registration No. 44,912)

Subject: Serial No. 09/886,642 -Vukovic et al.

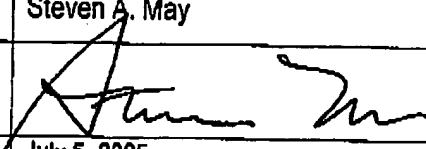
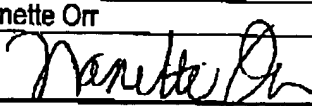
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MESSAGE:

Enclosed herewith, please find a **APPEAL BRIEF UNDER 37 C.F.R. 1.192** for filing in the below-identified application. *(3 copies)*

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EXAMINER:	Perez, A.
GROUP ART UNIT:	2684
SERIAL NO.:	09/886,642
FILED:	June 21, 2001
INVENTOR:	Vukovic et al.
ATTORNEY DOCKET NO.:	CE08410R

TRANSMITTAL FORM <small>(to be used for all correspondence after initial filing)</small>		Application Number		09/886,642							
		Filing Date		June 21, 2001							
		First Named Inventor		Vukovic et al.							
		Group Art Unit		2684							
		Examiner Name		Perez, A.							
Total Number of Pages in this Submission		4		Attorney Docket Number		CE08410R					
ENCLOSURES											
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/Declaration(s) <input type="checkbox"/> Extension of time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Documents <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts Under 37 CFR 1.52 or 1.53				<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-Related papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation, Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CDs				(check all that apply) <input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter with appropriate copies <input type="checkbox"/> Other Enclosure(s) (please identify below) <input type="checkbox"/> Response to Restriction Requirement <input type="checkbox"/> Associate Power of Attorney <input type="checkbox"/> RCE <input type="checkbox"/> Copy of Notice to File Missing Parts <input type="checkbox"/> Transmittal of Formal Drawings <input type="checkbox"/> Response to Notice of Non- Recordation of Document			
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FEE TRANSMITTAL Patent fees are subject to annual revision		Complete if Known	
		Application Number	09/886,642
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		Examiner Name	Perez, A.
		RECEIVED CENTRAL FAX CENTER JUL 05 2005	
TOTAL AMOUNT OF PAYMENT (\$)		Group Art Unit	2684
		Attorney Docket No.	CE08410R

METHOD OF PAYMENT 1. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge indicated fees and credit any overpayment to: Deposit Account Number 50-2117 Deposit Account Name Motorola, Inc. <input checked="" type="checkbox"/> Charge Any Additional Fee required under 37 CFR 1.16 and 1.17 <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27 2. <input type="checkbox"/> Payment Enclosed: <input type="checkbox"/> Check <input type="checkbox"/> Credit Card <input type="checkbox"/> Money Order <input type="checkbox"/> Other	FEE CALCULATION (continued) 3. ADDITIONAL FEES <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Large Entity</th> <th colspan="2">Small Entity</th> <th rowspan="2">Fee Description</th> </tr> <tr> <th>Fee Code</th> <th>Fee (\$)</th> <th>Fee Code</th> <th>Fee (\$)</th> </tr> </thead> <tbody> <tr><td>1051</td><td>130</td><td>2051</td><td>65</td><td>Surcharge - late filing fee or oath</td></tr> <tr><td>1062</td><td>50</td><td>2052</td><td>25</td><td>Surcharge - late Provisional filing</td></tr> <tr><td>1053</td><td>130</td><td>1053</td><td>130</td><td>Non-English specification</td></tr> <tr><td>1812</td><td>2520</td><td>1812</td><td>2520</td><td>For filing a request for ex parte Reexamination</td></tr> <tr><td>1804</td><td>920*</td><td>1804</td><td>920*</td><td>Requesting publication of AIR prior to Examiner action</td></tr> <tr><td>1805</td><td>1840*</td><td>1805</td><td>1840*</td><td>Requesting publication of AIR after Examiner action</td></tr> <tr><td>1251</td><td>110</td><td>2251</td><td>65</td><td>Extension for reply within first month</td></tr> <tr><td>1262</td><td>420</td><td>2262</td><td>205</td><td>Extension for reply within second month</td></tr> <tr><td>1263</td><td>930</td><td>2263</td><td>465</td><td>Extension for reply within third month</td></tr> <tr><td>1254</td><td>1450</td><td>2254</td><td>725</td><td>Extension for reply within fourth month</td></tr> <tr><td>1255</td><td>1970</td><td>2255</td><td>986</td><td>Extension for reply within fifth month</td></tr> <tr><td>1401</td><td>320</td><td>2401</td><td>160</td><td>Notice of Appeal</td></tr> <tr><td>1402</td><td>320</td><td>2402</td><td>160</td><td>Filing a brief in support of an appeal</td></tr> <tr><td>1403</td><td>260</td><td>2403</td><td>140</td><td>Request for oral hearing</td></tr> <tr><td>1451</td><td>1510</td><td>1451</td><td>1510</td><td>Petition to institute a public use proceeding</td></tr> <tr><td>1462</td><td>110</td><td>2462</td><td>55</td><td>Petition to revive - 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2. EXTRA CLAIM FEES <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Total Claims</th> <th>Previously Paid**</th> <th>Extra Claims</th> <th>Fee from below</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr> <td>Independent Claims</td> <td>20</td> <td>3</td> <td>18</td> <td></td> </tr> <tr> <td>Multiples Dependent</td> <td></td> <td></td> <td>86</td> <td></td> </tr> <tr> <td colspan="4"></td> <td>280 =</td> </tr> </tbody> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Large Fee Code</th> <th>Entity Fee (\$)</th> <th>Small Fee Code</th> <th>Entity Fee (\$)</th> <th>Fee Description</th> </tr> </thead> <tbody> <tr><td>1202</td><td>18</td><td>2202</td><td>9</td><td>Claims in excess of 20</td></tr> <tr><td>1201</td><td>86</td><td>2201</td><td>42</td><td>Independent claims in excess of 3</td></tr> <tr><td>1203</td><td>280</td><td>2203</td><td>140</td><td>Multiples dependent claim, if not paid</td></tr> <tr><td>1204</td><td>84</td><td>2204</td><td>42</td><td>Reissue independent claims over original patent</td></tr> <tr><td>1205</td><td>16</td><td>2205</td><td>9</td><td>Reissue claims in excess of 20 and over original patent</td></tr> </tbody> </table> <p style="text-align: right;">SUBTOTAL (2) (\$ 0.00)</p>						Total Claims	Previously Paid**	Extra Claims	Fee from below	Fee Paid	Independent Claims	20	3	18		Multiples Dependent			86						280 =	Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	1202	18	2202	9	Claims in excess of 20	1201	86	2201	42	Independent claims in excess of 3	1203	280	2203	140	Multiples dependent claim, if not paid	1204	84	2204	42	Reissue independent claims over original patent	1205	16	2205	9	Reissue claims in excess of 20 and over original patent
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SUBMITTED BY Name (Print/Type) Steven A. May Signature																																																							
Complete (if applicable) Registration No. 44,912 Telephone (847) 576-3635 Date July 5, 2005																																																							

- PATENT -

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APPLICANT: Vukovic et al.

EXAMINER: Perez, A.

SERIAL NO.: 09/886,642

ART UNIT: 2684

FILED: 06/21/01

CASE NO.: CE08410R

ENTITLED: METHOD AND APPARATUS FOR ALLOCATING A
COMMUNICATION RESOURCE IN A BROADBAND
COMMUNICAITON SYSTEMMotorola, Inc.
Corporate Offices
1303 E. Algonquin Road
Schaumburg, IL 60196
July 5, 2005**APPEAL BRIEF UNDER 37 CFR 1.192**

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on <u>July 5, 2005</u>	<u>7/5/2005</u>
Motorola, Inc.	Date
Name of applicant, assignee, or Registered Representative	
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Signature	

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Commissioner:

The appellants hereby respectfully submit the following Appeal Brief in response to a final Office Action dated January 26, 2005, and a Notice of Appeal filed May 3, 2005.

1. REAL PARTY IN INTEREST

The real party in interest in this appeal is Motorola, Inc.

2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

3. STATUS OF CLAIMS

This is an appeal from a final Office Action, dated January 26, 2005. Claims 1-24 are appealed. In a first Office Action dated April 21, 2004, the Examiner rejected claims 1-21 under 35 U.S.C. §102(e) as being anticipated by Bender (U.S. patent no. 6,366,779). In an Amendment dated August 24, 2004, the appellants amended each of claims 1, 3-5, 8, 10-12, 15, and 17-19 and added new claims 22-24.

Claim 1, as amended, provides a method for allocating a communication resource that comprises a reverse link traffic channel in a broadband communication system, the method including receiving a communication resource access request at a time that data received via the reverse link traffic channel is currently being demodulated and, in response to receiving the communication resource access request, transmitting a grant of access to the reverse link traffic channel.

Claim 8, as amended, provides an apparatus for allocating a communication resource in a broadband communication system, wherein the communication resource comprises a reverse link traffic channel. The apparatus includes an access request detector that detects a receipt of a communication resource access request, a demodulator that is capable of demodulating messages received via the reverse link traffic channel, and a means for generating a grant of access to the reverse link traffic channel and the demodulator in response to reception of the communication resource access request, wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel.

Claim 15, as amended, provides a communication device capable of operating in a broadband communication system. The communication device includes a receiver for receiving an communication resource access request, an access request detector coupled to the receiver that detects a receipt of the communication resource access request, a demodulator coupled to the receiver that is capable of demodulating messages received via a reverse link traffic channel, a means for generating a grant of access to the demodulator in response to reception of the communication resource access request, and a modulator for modulating the access grant onto a radio frequency signal to produce a modulated access grant, a transmitter for transmitting the modulated access grant, wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel.

In a final Office Action dated January 26, 2005, the Examiner rejected claims 1-24 under 35 U.S.C. §103(a) as being unpatentable over Bender in view of Willeneger (PCT International Publication No. WO 00/57663). No claims were allowed. The pending claims 1-24 are reproduced below in the attached Appendix.

4. STATUS OF AMENDMENTS

A Response to the Final Office Action was filed on April 28, 2005, and is currently pending. In the Response to the Final Office Action, the appellants responded to the Examiner's rejection of claims 1-24. The Response did not amend any claims. The appellants received an Advisory Action, dated May 23, 2005. The Advisory Action did not allow any of the claims.

5. SUMMARY OF INVENTION

The appellant's invention provides a method and apparatus for allocating a communication resource that includes a reverse link traffic channel in a broadband communication system. The communication resource that includes the reverse link traffic channel is allocated in response to a received communication resource access request, wherein the access request is received while a message received via the

communication channel is currently being demodulated. In response to receiving the request, a grant of access to the communication channel is generated and transmitted, which grant authorizes the source of the access request to use the communication channel. Thus the idle time of the base station demodulators of the prior art, wherein a preamble sent by a mobile station is not acknowledged by the base station until a demodulator is freed up to demodulate a new message, is reduced and system throughput and capacity is increased.

Claim 1, as amended, provides a method for allocating a communication resource that comprises a reverse link traffic channel in a broadband communication system. The method includes steps of receiving a communication resource access request at a time that data received via the reverse link traffic channel is currently being demodulated and, in response to receiving the communication resource access request, transmitting a grant of access to the reverse link traffic channel. (FIGs. 4 and 5; page 4, lines 22-27; page 7, line 1 to page 9, line 17; page 9, line 18 to page 12, line 7)

Claim 8, as amended, provides an apparatus for allocating a communication resource that includes a reverse link traffic channel in a broadband communication system. The apparatus includes an access request detector that detects a receipt of a communication resource access request, a demodulator that is capable of demodulating messages received via the reverse link traffic channel, and a means for generating a grant of access to the reverse link traffic channel and the demodulator in response to reception of the communication resource access request, wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel. (FIGs. 3 and 4; page 5, lines 1-10; page 7, line 1 to page 9, line 17; page 9, line 18 to page 11, line 9)

Claim 15, as amended, provides a communication device that is capable of operating in a broadband communication system. The communication device includes a receiver for receiving an communication resource access request, an access request detector coupled to the receiver that detects a receipt of the communication resource access request, a demodulator coupled to the receiver that is capable of demodulating messages received via a reverse link traffic channel, a means for generating a grant of

access to the demodulator in response to reception of the communication resource access request, and a modulator for modulating the access grant onto a radio frequency signal to produce a modulated access grant, a transmitter for transmitting the modulated access grant, wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel. (FIGs. 3 and 4; page 5, lines 11-23; page 7, line 1 to page 9, line 17; page 9, line 18 to page 11, line 9)

6. ISSUES

Whether claims 1, 8, and 15 are unpatentable under 35 U.S.C. §103(a) over Bender in view of Willeneger.

7. GROUPING OF CLAIMS

Appellants designate the following group of claims:

Group I: claims 1-24.

8. ARGUMENT

(i) Rejection under 35 U.S.C. §112, first paragraph:

None

(ii) Rejection under 35 U.S.C. §112, second paragraph:

None

(iii) Rejection under 35 U.S.C. §102:

None

(iv) Rejection under 35 U.S.C. §103:

The Examiner rejected claim 1-21 under 35 U.S.C. §103(a) under 35 U.S.C. §103(a) as being unpatentable over Bender in view of Willeneger. More specifically, with

respect to claims 1, 8, and 15, the Examiner contended that Bender teaches a method, apparatus, and device for allocating a communication resource comprising a reverse link channel (col. 4, lines 14-18), the method comprising receiving a communication resource access request at time that data received via the reverse link channel is currently being demodulated (col. 10, lines 3-16; the Examiner noting that this step is not actually taught but it is inherent that demodulation is occurring when the channel is being used by the mobile station (MS) while the base station (BS) is receiving an access probe) and, in response to receiving the communication resource access request, transmitting a grant of access to the reverse link channel (col. 10, lines 28-33). The Examiner further stated that Bender does not teach a reverse link traffic channel request in detail, but that Willeneger teaches a reverse link traffic channel being demodulated while receiving a reverse link traffic channel request and a grant of access to a reverse link traffic channel (page 11, lines 22-24; page 12, lines 17-22).

The appellants believe that the Examiner has misinterpreted both Bender and Willeneger. In col. 4, lines 14-18, Bender merely teaches an MS initiating a reverse link traffic channel assignment request by transmitting an access probe to a BS via a reverse link access channel. In col. 10, lines 3-16, Bender merely teaches that, after transmitting its probe, the MS may begin transmitting on a reverse link traffic channel identified the MS's Mobile Station Identifier (MSI) without first waiting for a traffic channel assignment. This reverse link traffic channel is defined by the MS's MSI. Since the MSI is unique to the MS, Bender assumes that the corresponding reverse link traffic channel will be uniquely allocated to the MS and therefore there is very little likelihood that any other MS will be using this reverse link traffic channel and cause a collision. In other words, Bender teaches a "pre-assignment" of a reverse link traffic channel uniquely to the MS (col. 4, lines 56-61). This has nothing to do with an assignment of the reverse link traffic channel by the BS in response to an access probe. That is, claims 1, 8, and 15 teach an expedited assignment of a reverse link traffic channel. By contrast, Bender teaches a pre-assignment of a reverse link traffic channel. These are two completely different approaches to call set up.

Willeneger is concerned with accessing an access channel and with providing power control via the access channel. That is, Willeneger teaches a splitting of an access probe into two parts, a request portion and a message portion. An MS seeking access to a communication system first transmits the request portion of the access probe, that is, an abbreviated and incomplete version of an access probe, via a reverse link control channel (R-CCCH). Power control, a typical access probe function that is performed prior to traffic channel assignment, may not be performed based on the request portion of the access probe. In the first section of Willeneger cited by the Examiner (page 11, lines 22-24), in response to transmitting the request, the MS monitors a forward link control channel to determine if the MS is granted a reserved *access channel* for conveyance of the message portion of the access probe. That is, the referenced channel assignment message assigns an access channel, not a traffic channel. In fact, Willeneger specifically states that "[o]nce the mobile station is assigned a reserved access channel, the traffic channel assignment process can proceed in much the same manner as IS-95," that is, in a conventional manner. When the MS is granted a reserved access channel, the MS may then transmit the message portion of the access probe and engage in power control via preambles transmitted via the reserved access channel. In the other, second section of Willeneger cited by the Examiner (page 12, lines 17-22), Willeneger merely teaches that, after the BS grants an access channel to the MS and receives the message portion of the access probe, the BS demodulates the message portion.

In other words, Willeneger merely concerns an MS attempting to access an access channel so that the MS may then engage in power control via preambles transmitted via the access channel. Willeneger then assumes conventional traffic channel assignment. By contrast, claims 1, 8, and 15 assume that the MS can access the access channel and transmit a preamble and instead teach an expedited process for reverse link traffic channel assignment. Nowhere is this taught by, or even a concern of, Willeneger.

Therefore, neither Bender nor Willeneger, individually or in combination, teach the features of claims 1, 8, or 15 of receiving a communication resource access request at a time that data received via the reverse link traffic channel is currently being demodulated and, in response to receiving the communication resource access request,

transmitting a grant of access to the reverse link traffic channel. Again, in Bender, the reverse link traffic channel is freed up as it has been uniquely pre-assigned to the MS. Willeneger merely teaches conventional reverse link traffic channel assignment. Accordingly, the appellants respectfully request that claims 1, 8, and 15 are not unpatentable over the prior art of record.

Regarding dependent claims 2-7, 9-14, and 16-24, because claims 2-7 and 22 depend directly or indirectly from independent claim 1, claims 9-14 and 23 depend directly or indirectly from independent claim 8, and claims 16-21 and 24 depend directly or indirectly from independent claim 15, the appellants respectfully request that claims 2-7, 9-14, and 16-24 are not unpatentable over the prior art of record.

(v) Other rejections

None.

8. CONCLUSION

For the above reasons, the appellants respectfully submit that the rejection of claims 1-24 under 35 U.S.C. §103(a) as being unpatentable over Bender in view of Willeneger is in error and should be reversed and the claims allowed.

Respectfully submitted,

Ivan Yukovic et al.

By: 

Steven A. May
Attorney for Appellants
Registration No. 44,912
Tel. No.: 847/576-3635
Fax No.: 847/576-3750

APPENDIX

1. In a broadband communication system, a method for allocating a communication resource that comprises a reverse link traffic channel, the method comprising steps of:

receiving a communication resource access request at a time that data received via the reverse link traffic channel is currently being demodulated; and

in response to receiving the communication resource access request, transmitting a grant of access to the reverse link traffic channel.

2. The method of claim 1, wherein the access grant is transmitted prior to completion of the demodulation of the data.

3. The method of claim 1, wherein the step of transmitting a grant of access to the reverse link traffic channel comprises steps of:

determining a time that a demodulator will be available;

determining a time that a grant of access to the reverse link traffic channel can be transmitted based on the time that the demodulator will be available; and

transmitting an access grant based on the received request and on the determined time that the grant of access to the reverse link traffic channel can be transmitted.

4. The method of claim 3, wherein the step of transmitting a grant of access to the reverse link traffic channel further comprises a step of determining a time that the demodulator will finish demodulating the received message.

5. The method of claim 3, wherein the step of transmitting a grant of access to the reverse link traffic channel further comprises a step of determining a time interval between the time that the demodulator will be available and the time that an access grant can be transmitted.

6. The method of claim 1, wherein the communication resource access request is a preamble.

7. The method of claim 1, wherein the access grant is an acknowledgment.
8. An apparatus for allocating a communication resource in a broadband communication system, wherein the communication resource comprises a reverse link traffic channel, the apparatus comprising:
- an access request detector that detects a receipt of a communication resource access request;
 - a demodulator that is capable of demodulating messages received via the reverse link traffic channel;
 - a means for generating a grant of access to the reverse link traffic channel and the demodulator in response to reception of the communication resource access request; and
 - wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel.
9. The apparatus of claim 8, wherein the access grant is generated prior to completion of demodulation of the message.
10. The apparatus of claim 8, wherein the a means for generating a grant of access to the reverse link traffic channel comprises:
- a means for determining a time that the demodulator will be available;
 - a means for determining a time of transmission of a grant of access to the reverse link traffic channel based on the determined time of demodulator availability; and
 - a means for generating an access grant based on the received communication resource access request and on the determined time of transmission of the access grant.
11. The apparatus of claim 10, wherein the means for generating a grant of access to the reverse link traffic channel further comprises a means for determining a time that the demodulator will finish demodulating the received message.

12. The apparatus of claim 10, wherein the means for generating a grant of access to the reverse link traffic channel further comprises a means for determining a time interval between the time that the demodulator will be available and the time that an access grant may be transmitted.
13. The apparatus of claim 8, wherein the access grant comprises an acknowledgment.
14. The apparatus of claim 8, wherein the communication resource access request comprises a preamble and wherein the access request detector comprises a preamble detector that detects a preamble in a received signal.
15. A communication device capable of operating in a broadband communication system, the communication device comprising:
- a receiver for receiving an communication resource access request;
 - an access request detector coupled to the receiver that detects a receipt of the communication resource access request;
 - a demodulator coupled to the receiver that is capable of demodulating messages received via a reverse link traffic channel;
 - a means for generating a grant of access to the demodulator in response to reception of the communication resource access request;
 - a modulator for modulating the access grant onto a radio frequency signal to produce a modulated access grant;
 - a transmitter for transmitting the modulated access grant; and
 - wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel.
16. The communication device of claim 15, wherein the access grant is generated when the demodulator is engaged in a demodulation of an already received message.

17. The communication device of claim 15, wherein the a means for generating a grant of access to the reverse link traffic channel comprises:

- a means for determining a time that the demodulator will be available;
- a means for determining a time of transmission of a grant of access to the reverse link traffic channel based on the determined time of demodulator availability; and
- a means for generating an access grant based on the received communication resource access request and on the determined time of transmission of the access grant.

18. The communication device of claim 17, wherein the means for generating a grant of access to the reverse link traffic channel further comprises a means for determining a time that the demodulator will finish demodulating the received message.

19. The communication device of claim 17, wherein the means for generating a grant of access to the reverse link traffic channel further comprises a means for determining a time interval between the time that the demodulator will be available and the time that an access grant may be transmitted.

20. The communication device of claim 15, wherein the communication resource access request comprises a preamble and wherein the access request detector comprises a preamble detector capable of detecting the preamble.

21. The communication device of claim 15, wherein the access grant comprises an acknowledgment.

22. The method of claim 1, further comprising a step of determining an earliest time that a grant of access to the reverse link traffic channel can be conveyed to a mobile station and wherein transmitting comprises transmitting the grant of access to the mobile station at or after the determined earliest time.

23. The apparatus of claim 8, wherein the means for generating a grant of access to the communication channel comprises a means for determining an earliest time that a grant of

access to the reverse link traffic channel can be conveyed to a mobile station and wherein the apparatus further comprises a means for conveying the grant of access to the mobile station at or after the determined earliest time.

24. The communication device of claim 15, wherein the means for generating a grant of access to the communication channel comprises a means for determining an earliest time that a grant of access to the reverse link traffic channel can be conveyed to a mobile station and wherein the apparatus further comprises a means for conveying the grant of access to the mobile station at or after the determined earliest time.

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APPLICANT: Vukovic et al.

EXAMINER: Perez, A.

SERIAL NO.: 09/886,642

ART UNIT: 2684

FILED: 06/21/01

CASE NO.: CE08410R

ENTITLED: METHOD AND APPARATUS FOR ALLOCATING A
COMMUNICATION RESOURCE IN A BROADBAND
COMMUNICAITON SYSTEM

Motorola, Inc.
Corporate Offices
1303 E. Algonquin Road
Schaumburg, IL 60196
July 5, 2005

APPEAL BRIEF UNDER 37 CFR 1.192

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Mail Stop Appeal Brief - Patents
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Commissioner:

The appellants hereby respectfully submit the following Appeal Brief in response
to a final Office Action dated January 26, 2005, and a Notice of Appeal filed May 3,
2005.

1. REAL PARTY IN INTEREST

The real party in interest in this appeal is Motorola, Inc.

2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

3. STATUS OF CLAIMS

This is an appeal from a final Office Action, dated January 26, 2005. Claims 1-24 are appealed. In a first Office Action dated April 21, 2004, the Examiner rejected claims 1-21 under 35 U.S.C. §102(e) as being anticipated by Bender (U.S. patent no. 6,366,779). In an Amendment dated August 24, 2004, the appellants amended each of claims 1, 3-5, 8, 10-12, 15, and 17-19 and added new claims 22-24.

Claim 1, as amended, provides a method for allocating a communication resource that comprises a reverse link traffic channel in a broadband communication system, the method including receiving a communication resource access request at a time that data received via the reverse link traffic channel is currently being demodulated and, in response to receiving the communication resource access request, transmitting a grant of access to the reverse link traffic channel.

Claim 8, as amended, provides an apparatus for allocating a communication resource in a broadband communication system, wherein the communication resource comprises a reverse link traffic channel. The apparatus includes an access request detector that detects a receipt of a communication resource access request, a demodulator that is capable of demodulating messages received via the reverse link traffic channel, and a means for generating a grant of access to the reverse link traffic channel and the demodulator in response to reception of the communication resource access request, wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel.

Claim 15, as amended, provides a communication device capable of operating in a broadband communication system. The communication device includes a receiver for receiving an communication resource access request, an access request detector coupled to the receiver that detects a receipt of the communication resource access request, a demodulator coupled to the receiver that is capable of demodulating messages received via a reverse link traffic channel, a means for generating a grant of access to the demodulator in response to reception of the communication resource access request, and a modulator for modulating the access grant onto a radio frequency signal to produce a modulated access grant, a transmitter for transmitting the modulated access grant, wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel.

In a final Office Action dated January 26, 2005, the Examiner rejected claims 1-24 under 35 U.S.C. §103(a) as being unpatentable over Bender in view of Willeneger (PCT International Publication No. WO 00/57663). No claims were allowed. The pending claims 1-24 are reproduced below in the attached Appendix.

4. STATUS OF AMENDMENTS

A Response to the Final Office Action was filed on April 28, 2005, and is currently pending. In the Response to the Final Office Action, the appellants responded to the Examiner's rejection of claims 1-24. The Response did not amend any claims. The appellants received an Advisory Action, dated May 23, 2005. The Advisory Action did not allow any of the claims.

5. SUMMARY OF INVENTION

The appellant's invention provides a method and apparatus for allocating a communication resource that includes a reverse link traffic channel in a broadband communication system. The communication resource that includes the reverse link traffic channel is allocated in response to a received communication resource access request, wherein the access request is received while a message received via the

communication channel is currently being demodulated. In response to receiving the request, a grant of access to the communication channel is generated and transmitted, which grant authorizes the source of the access request to use the communication channel. Thus the idle time of the base station demodulators of the prior art, wherein a preamble sent by a mobile station is not acknowledged by the base station until a demodulator is freed up to demodulate a new message, is reduced and system throughput and capacity is increased.

Claim 1, as amended, provides a method for allocating a communication resource that comprises a reverse link traffic channel in a broadband communication system. The method includes steps of receiving a communication resource access request at a time that data received via the reverse link traffic channel is currently being demodulated and, in response to receiving the communication resource access request, transmitting a grant of access to the reverse link traffic channel. (FIGs. 4 and 5; page 4, lines 22-27; page 7, line 1 to page 9, line 17; page 9, line 18 to page 12, line 7)

Claim 8, as amended, provides an apparatus for allocating a communication resource that includes a reverse link traffic channel in a broadband communication system. The apparatus includes an access request detector that detects a receipt of a communication resource access request, a demodulator that is capable of demodulating messages received via the reverse link traffic channel, and a means for generating a grant of access to the reverse link traffic channel and the demodulator in response to reception of the communication resource access request, wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel. (FIGs. 3 and 4; page 5, lines 1-10; page 7, line 1 to page 9, line 17; page 9, line 18 to page 11, line 9)

Claim 15, as amended, provides a communication device that is capable of operating in a broadband communication system. The communication device includes a receiver for receiving an communication resource access request, an access request detector coupled to the receiver that detects a receipt of the communication resource access request, a demodulator coupled to the receiver that is capable of demodulating messages received via a reverse link traffic channel, a means for generating a grant of

access to the demodulator in response to reception of the communication resource access request, and a modulator for modulating the access grant onto a radio frequency signal to produce a modulated access grant, a transmitter for transmitting the modulated access grant, wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel. (FIGs. 3 and 4; page 5, lines 11-23; page 7, line 1 to page 9, line 17; page 9, line 18 to page 11, line 9)

6. ISSUES

Whether claims 1, 8, and 15 are unpatentable under 35 U.S.C. §103(a) over Bender in view of Willeneger.

7. GROUPING OF CLAIMS

Appellants designate the following group of claims:

Group I: claims 1-24.

8. ARGUMENT

(i) Rejection under 35 U.S.C. §112, first paragraph:

None

(ii) Rejection under 35 U.S.C. §112, second paragraph:

None

(iii) Rejection under 35 U.S.C. §102:

None

(iv) Rejection under 35 U.S.C. §103:

The Examiner rejected claim 1-21 under 35 U.S.C. §103(a) under 35 U.S.C. §103(a) as being unpatentable over Bender in view of Willeneger. More specifically, with

respect to claims 1, 8, and 15, the Examiner contended that Bender teaches a method, apparatus, and device for allocating a communication resource comprising a reverse link channel (col. 4, lines 14-18), the method comprising receiving a communication resource access request at time that data received via the reverse link channel is currently being demodulated (col. 10, lines 3-16; the Examiner noting that this step is not actually taught but it is inherent that demodulation is occurring when the channel is being used by the mobile station (MS) while the base station (BS) is receiving an access probe) and, in response to receiving the communication resource access request, transmitting a grant of access to the reverse link channel (col. 10, lines 28-33). The Examiner further stated that Bender does not teach a reverse link traffic channel request in detail, but that Willeneger teaches a reverse link traffic channel being demodulated while receiving a reverse link traffic channel request and a grant of access to a reverse link traffic channel (page 11, lines 22-24; page 12, lines 17-22).

The appellants believe that the Examiner has misinterpreted both Bender and Willeneger. In col. 4, lines 14-18, Bender merely teaches an MS initiating a reverse link traffic channel assignment request by transmitting an access probe to a BS via a reverse link access channel. In col. 10, lines 3-16, Bender merely teaches that, after transmitting its probe, the MS may begin transmitting on a reverse link traffic channel identified the MS's Mobile Station Identifier (MSI) without first waiting for a traffic channel assignment. This reverse link traffic channel is defined by the MS's MSI. Since the MSI is unique to the MS, Bender assumes that the corresponding reverse link traffic channel will be uniquely allocated to the MS and therefore there is very little likelihood that any other MS will be using this reverse link traffic channel and cause a collision. In other words, Bender teaches a "pre-assignment" of a reverse link traffic channel uniquely to the MS (col. 4, lines 56-61). This has nothing to do with an assignment of the reverse link traffic channel by the BS in response to an access probe. That is, claims 1, 8, and 15 teach an expedited assignment of a reverse link traffic channel. By contrast, Bender teaches a pre-assignment of a reverse link traffic channel. These are two completely different approaches to call set up.

Willeneger is concerned with accessing an access channel and with providing power control via the access channel. That is, Willeneger teaches a splitting of an access probe into two parts, a request portion and a message portion. An MS seeking access to a communication system first transmits the request portion of the access probe, that is, an abbreviated and incomplete version of an access probe, via a reverse link control channel (R-CCCH). Power control, a typical access probe function that is performed prior to traffic channel assignment, may not be performed based on the request portion of the access probe. In the first section of Willeneger cited by the Examiner (page 11, lines 22-24), in response to transmitting the request, the MS monitors a forward link control channel to determine if the MS is granted a reserved *access channel* for conveyance of the message portion of the access probe. That is, the referenced channel assignment message assigns an access channel, not a traffic channel. In fact, Willeneger specifically states that "[o]nce the mobile station is assigned a reserved access channel, the traffic channel assignment process can proceed in much the same manner as IS-95," that is, in a conventional manner. When the MS is granted a reserved access channel, the MS may then transmit the message portion of the access probe and engage in power control via preambles transmitted via the reserved access channel. In the other, second section of Willeneger cited by the Examiner (page 12, lines 17-22), Willeneger merely teaches that, after the BS grants an access channel to the MS and receives the message portion of the access probe, the BS demodulates the message portion.

In other words, Willeneger merely concerns an MS attempting to access an access channel so that the MS may then engage in power control via preambles transmitted via the access channel. Willeneger then assumes conventional traffic channel assignment. By contrast, claims 1, 8, and 15 assume that the MS can access the access channel and transmit a preamble and instead teach an expedited process for reverse link traffic channel assignment. Nowhere is this taught by, or even a concern of, Willeneger.

Therefore, neither Bender nor Willeneger, individually or in combination, teach the features of claims 1, 8, or 15 of receiving a communication resource access request at a time that data received via the reverse link traffic channel is currently being demodulated and, in response to receiving the communication resource access request,

transmitting a grant of access to the reverse link traffic channel. Again, in Bender, the reverse link traffic channel is freed up as it has been uniquely pre-assigned to the MS. Willeneger merely teaches conventional reverse link traffic channel assignment. Accordingly, the appellants respectfully request that claims 1, 8, and 15 are not unpatentable over the prior art of record.

Regarding dependent claims 2-7, 9-14, and 16-24, because claims 2-7 and 22 depend directly or indirectly from independent claim 1, claims 9-14 and 23 depend directly or indirectly from independent claim 8, and claims 16-21 and 24 depend directly or indirectly from independent claim 15, the appellants respectfully request that claims 2-7, 9-14, and 16-24 are not unpatentable over the prior art of record.

(v) Other rejections

None.

8. CONCLUSION

For the above reasons, the appellants respectfully submit that the rejection of claims 1-24 under 35 U.S.C. §103(a) as being upatentable over Bender in view of Willeneger is in error and should be reversed and the claims allowed.

Respectfully submitted,

Ivan Yukovic et al.

By: 

Steven A. May
Attorney for Appellants
Registration No. 44,912
Tel. No.: 847/576-3635
Fax No.: 847/576-3750

APPENDIX

1. In a broadband communication system, a method for allocating a communication resource that comprises a reverse link traffic channel, the method comprising steps of:
receiving a communication resource access request at a time that data received via the reverse link traffic channel is currently being demodulated; and
in response to receiving the communication resource access request, transmitting a grant of access to the reverse link traffic channel.
2. The method of claim 1, wherein the access grant is transmitted prior to completion of the demodulation of the data.
3. The method of claim 1, wherein the step of transmitting a grant of access to the reverse link traffic channel comprises steps of:
determining a time that a demodulator will be available;
determining a time that a grant of access to the reverse link traffic channel can be transmitted based on the time that the demodulator will be available; and
transmitting an access grant based on the received request and on the determined time that the grant of access to the reverse link traffic channel can be transmitted.
4. The method of claim 3, wherein the step of transmitting a grant of access to the reverse link traffic channel further comprises a step of determining a time that the demodulator will finish demodulating the received message.
5. The method of claim 3, wherein the step of transmitting a grant of access to the reverse link traffic channel further comprises a step of determining a time interval between the time that the demodulator will be available and the time that an access grant can be transmitted.
6. The method of claim 1, wherein the communication resource access request is a preamble.

7. The method of claim 1, wherein the access grant is an acknowledgment.
8. An apparatus for allocating a communication resource in a broadband communication system, wherein the communication resource comprises a reverse link traffic channel, the apparatus comprising:
- an access request detector that detects a receipt of a communication resource access request;
 - a demodulator that is capable of demodulating messages received via the reverse link traffic channel;
 - a means for generating a grant of access to the reverse link traffic channel and the demodulator in response to reception of the communication resource access request; and
 - wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel.
9. The apparatus of claim 8, wherein the access grant is generated prior to completion of demodulation of the message.
10. The apparatus of claim 8, wherein the a means for generating a grant of access to the reverse link traffic channel comprises:
- a means for determining a time that the demodulator will be available;
 - a means for determining a time of transmission of a grant of access to the reverse link traffic channel based on the determined time of demodulator availability; and
 - a means for generating an access grant based on the received communication resource access request and on the determined time of transmission of the access grant.
11. The apparatus of claim 10, wherein the means for generating a grant of access to the reverse link traffic channel further comprises a means for determining a time that the demodulator will finish demodulating the received message.

12. The apparatus of claim 10, wherein the means for generating a grant of access to the reverse link traffic channel further comprises a means for determining a time interval between the time that the demodulator will be available and the time that an access grant may be transmitted.
13. The apparatus of claim 8, wherein the access grant comprises an acknowledgment.
14. The apparatus of claim 8, wherein the communication resource access request comprises a preamble and wherein the access request detector comprises a preamble detector that detects a preamble in a received signal.
15. A communication device capable of operating in a broadband communication system, the communication device comprising:
- a receiver for receiving an communication resource access request;
 - an access request detector coupled to the receiver that detects a receipt of the communication resource access request;
 - a demodulator coupled to the receiver that is capable of demodulating messages received via a reverse link traffic channel;
 - a means for generating a grant of access to the demodulator in response to reception of the communication resource access request;
 - a modulator for modulating the access grant onto a radio frequency signal to produce a modulated access grant;
 - a transmitter for transmitting the modulated access grant; and
 - wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel.
16. The communication device of claim 15, wherein the access grant is generated when the demodulator is engaged in a demodulation of an already received message.

17. The communication device of claim 15, wherein the a means for generating a grant of access to the reverse link traffic channel comprises:

a means for determining a time that the demodulator will be available;

a means for determining a time of transmission of a grant of access to the reverse link traffic channel based on the determined time of demodulator availability; and

a means for generating an access grant based on the received communication resource access request and on the determined time of transmission of the access grant.

18. The communication device of claim 17, wherein the means for generating a grant of access to the reverse link traffic channel further comprises a means for determining a time that the demodulator will finish demodulating the received message.

19. The communication device of claim 17, wherein the means for generating a grant of access to the reverse link traffic channel further comprises a means for determining a time interval between the time that the demodulator will be available and the time that an access grant may be transmitted.

20. The communication device of claim 15, wherein the communication resource access request comprises a preamble and wherein the access request detector comprises a preamble detector capable of detecting the preamble.

21. The communication device of claim 15, wherein the access grant comprises an acknowledgment.

22. The method of claim 1, further comprising a step of determining an earliest time that a grant of access to the reverse link traffic channel can be conveyed to a mobile station and wherein transmitting comprises transmitting the grant of access to the mobile station at or after the determined earliest time.

23. The apparatus of claim 8, wherein the means for generating a grant of access to the communication channel comprises a means for determining an earliest time that a grant of

access to the reverse link traffic channel can be conveyed to a mobile station and wherein the apparatus further comprises a means for conveying the grant of access to the mobile station at or after the determined earliest time.

24. The communication device of claim 15, wherein the means for generating a grant of access to the communication channel comprises a means for determining an earliest time that a grant of access to the reverse link traffic channel can be conveyed to a mobile station and wherein the apparatus further comprises a means for conveying the grant of access to the mobile station at or after the determined earliest time.

- PATENT -

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Vukovic et al.

EXAMINER: Perez, A.

SERIAL NO.: 09/886,642

ART UNIT: 2684

FILED: 06/21/01

CASE NO.: CE08410R

ENTITLED: METHOD AND APPARATUS FOR ALLOCATING A
COMMUNICATION RESOURCE IN A BROADBAND
COMMUNICAITON SYSTEMMotorola, Inc.
Corporate Offices
1303 E. Algonquin Road
Schaumburg, IL 60196
July 5, 2005APPEAL BRIEF UNDER 37 CFR 1.192

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The appellants hereby respectfully submit the following Appeal Brief in response to a final Office Action dated January 26, 2005, and a Notice of Appeal filed May 3, 2005.

1. REAL PARTY IN INTEREST

The real party in interest in this appeal is Motorola, Inc.

2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

3. STATUS OF CLAIMS

This is an appeal from a final Office Action, dated January 26, 2005. Claims 1-24 are appealed. In a first Office Action dated April 21, 2004, the Examiner rejected claims 1-21 under 35 U.S.C. §102(e) as being anticipated by Bender (U.S. patent no. 6,366,779). In an Amendment dated August 24, 2004, the appellants amended each of claims 1, 3-5, 8, 10-12, 15, and 17-19 and added new claims 22-24.

Claim 1, as amended, provides a method for allocating a communication resource that comprises a reverse link traffic channel in a broadband communication system, the method including receiving a communication resource access request at a time that data received via the reverse link traffic channel is currently being demodulated and, in response to receiving the communication resource access request, transmitting a grant of access to the reverse link traffic channel.

Claim 8, as amended, provides an apparatus for allocating a communication resource in a broadband communication system, wherein the communication resource comprises a reverse link traffic channel. The apparatus includes an access request detector that detects a receipt of a communication resource access request, a demodulator that is capable of demodulating messages received via the reverse link traffic channel, and a means for generating a grant of access to the reverse link traffic channel and the demodulator in response to reception of the communication resource access request, wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel.

Claim 15, as amended, provides a communication device capable of operating in a broadband communication system. The communication device includes a receiver for receiving an communication resource access request, an access request detector coupled to the receiver that detects a receipt of the communication resource access request, a demodulator coupled to the receiver that is capable of demodulating messages received via a reverse link traffic channel, a means for generating a grant of access to the demodulator in response to reception of the communication resource access request, and a modulator for modulating the access grant onto a radio frequency signal to produce a modulated access grant, a transmitter for transmitting the modulated access grant, wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel.

In a final Office Action dated January 26, 2005, the Examiner rejected claims 1-24 under 35 U.S.C. §103(a) as being unpatentable over Bender in view of Willeneger (PCT International Publication No. WO 00/57663). No claims were allowed. The pending claims 1-24 are reproduced below in the attached Appendix.

4. STATUS OF AMENDMENTS

A Response to the Final Office Action was filed on April 28, 2005, and is currently pending. In the Response to the Final Office Action, the appellants responded to the Examiner's rejection of claims 1-24. The Response did not amend any claims. The appellants received an Advisory Action, dated May 23, 2005. The Advisory Action did not allow any of the claims.

5. SUMMARY OF INVENTION

The appellant's invention provides a method and apparatus for allocating a communication resource that includes a reverse link traffic channel in a broadband communication system. The communication resource that includes the reverse link traffic channel is allocated in response to a received communication resource access request, wherein the access request is received while a message received via the

communication channel is currently being demodulated. In response to receiving the request, a grant of access to the communication channel is generated and transmitted, which grant authorizes the source of the access request to use the communication channel. Thus the idle time of the base station demodulators of the prior art, wherein a preamble sent by a mobile station is not acknowledged by the base station until a demodulator is freed up to demodulate a new message, is reduced and system throughput and capacity is increased.

Claim 1, as amended, provides a method for allocating a communication resource that comprises a reverse link traffic channel in a broadband communication system. The method includes steps of receiving a communication resource access request at a time that data received via the reverse link traffic channel is currently being demodulated and, in response to receiving the communication resource access request, transmitting a grant of access to the reverse link traffic channel. (FIGs. 4 and 5; page 4, lines 22-27; page 7, line 1 to page 9, line 17; page 9, line 18 to page 12, line 7)

Claim 8, as amended, provides an apparatus for allocating a communication resource that includes a reverse link traffic channel in a broadband communication system. The apparatus includes an access request detector that detects a receipt of a communication resource access request, a demodulator that is capable of demodulating messages received via the reverse link traffic channel, and a means for generating a grant of access to the reverse link traffic channel and the demodulator in response to reception of the communication resource access request, wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel. (FIGs. 3 and 4; page 5, lines 1-10; page 7, line 1 to page 9, line 17; page 9, line 18 to page 11, line 9)

Claim 15, as amended, provides a communication device that is capable of operating in a broadband communication system. The communication device includes a receiver for receiving an communication resource access request, an access request detector coupled to the receiver that detects a receipt of the communication resource access request, a demodulator coupled to the receiver that is capable of demodulating messages received via a reverse link traffic channel, a means for generating a grant of

access to the demodulator in response to reception of the communication resource access request, and a modulator for modulating the access grant onto a radio frequency signal to produce a modulated access grant, a transmitter for transmitting the modulated access grant, wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel. (FIGs. 3 and 4; page 5, lines 11-23; page 7, line 1 to page 9, line 17; page 9, line 18 to page 11, line 9)

6. ISSUES

Whether claims 1, 8, and 15 are unpatentable under 35 U.S.C. §103(a) over Bender in view of Willeneger.

7. GROUPING OF CLAIMS

Appellants designate the following group of claims:

Group I: claims 1-24.

8. ARGUMENT

(i) Rejection under 35 U.S.C. §112, first paragraph:

None

(ii) Rejection under 35 U.S.C. §112, second paragraph:

None

(iii) Rejection under 35 U.S.C. §102:

None

(iv) Rejection under 35 U.S.C. §103:

The Examiner rejected claim 1-21 under 35 U.S.C. §103(a) under 35 U.S.C. §103(a) as being unpatentable over Bender in view of Willeneger. More specifically, with

respect to claims 1, 8, and 15, the Examiner contended that Bender teaches a method, apparatus, and device for allocating a communication resource comprising a reverse link channel (col. 4, lines 14-18), the method comprising receiving a communication resource access request at time that data received via the reverse link channel is currently being demodulated (col. 10, lines 3-16; the Examiner noting that this step is not actually taught but it is inherent that demodulation is occurring when the channel is being used by the mobile station (MS) while the base station (BS) is receiving an access probe) and, in response to receiving the communication resource access request, transmitting a grant of access to the reverse link channel (col. 10, lines 28-33). The Examiner further stated that Bender does not teach a reverse link traffic channel request in detail, but that Willeneger teaches a reverse link traffic channel being demodulated while receiving a reverse link traffic channel request and a grant of access to a reverse link traffic channel (page 11, lines 22-24; page 12, lines 17-22).

The appellants believe that the Examiner has misinterpreted both Bender and Willeneger. In col. 4, lines 14-18, Bender merely teaches an MS initiating a reverse link traffic channel assignment request by transmitting an access probe to a BS via a reverse link access channel. In col. 10, lines 3-16, Bender merely teaches that, after transmitting its probe, the MS may begin transmitting on a reverse link traffic channel identified the MS's Mobile Station Identifier (MSI) without first waiting for a traffic channel assignment. This reverse link traffic channel is defined by the MS's MSI. Since the MSI is unique to the MS, Bender assumes that the corresponding reverse link traffic channel will be uniquely allocated to the MS and therefore there is very little likelihood that any other MS will be using this reverse link traffic channel and cause a collision. In other words, Bender teaches a "pre-assignment" of a reverse link traffic channel uniquely to the MS (col. 4, lines 56-61). This has nothing to do with an assignment of the reverse link traffic channel by the BS in response to an access probe. That is, claims 1, 8, and 15 teach an expedited assignment of a reverse link traffic channel. By contrast, Bender teaches a pre-assignment of a reverse link traffic channel. These are two completely different approaches to call set up.

Willeneger is concerned with accessing an access channel and with providing power control via the access channel. That is, Willeneger teaches a splitting of an access probe into two parts, a request portion and a message portion. An MS seeking access to a communication system first transmits the request portion of the access probe, that is, an abbreviated and incomplete version of an access probe, via a reverse link control channel (R-CCCH). Power control, a typical access probe function that is performed prior to traffic channel assignment, may not be performed based on the request portion of the access probe. In the first section of Willeneger cited by the Examiner (page 11, lines 22-24), in response to transmitting the request, the MS monitors a forward link control channel to determine if the MS is granted a reserved *access channel* for conveyance of the message portion of the access probe. That is, the referenced channel assignment message assigns an access channel, not a traffic channel. In fact, Willeneger specifically states that "[o]nce the mobile station is assigned a reserved access channel, the traffic channel assignment process can proceed in much the same manner as IS-95," that is, in a conventional manner. When the MS is granted a reserved access channel, the MS may then transmit the message portion of the access probe and engage in power control via preambles transmitted via the reserved access channel. In the other, second section of Willeneger cited by the Examiner (page 12, lines 17-22), Willeneger merely teaches that, after the BS grants an access channel to the MS and receives the message portion of the access probe, the BS demodulates the message portion.

In other words, Willeneger merely concerns an MS attempting to access an access channel so that the MS may then engage in power control via preambles transmitted via the access channel. Willeneger then assumes conventional traffic channel assignment. By contrast, claims 1, 8, and 15 assume that the MS can access the access channel and transmit a preamble and instead teach an expedited process for reverse link traffic channel assignment. Nowhere is this taught by, or even a concern of, Willeneger.

Therefore, neither Bender nor Willeneger, individually or in combination, teach the features of claims 1, 8, or 15 of receiving a communication resource access request at a time that data received via the reverse link traffic channel is currently being demodulated and, in response to receiving the communication resource access request,

transmitting a grant of access to the reverse link traffic channel. Again, in Bender, the reverse link traffic channel is freed up as it has been uniquely pre-assigned to the MS. Willeneger merely teaches conventional reverse link traffic channel assignment. Accordingly, the appellants respectfully request that claims 1, 8, and 15 are not unpatentable over the prior art of record.

Regarding dependent claims 2-7, 9-14, and 16-24, because claims 2-7 and 22 depend directly or indirectly from independent claim 1, claims 9-14 and 23 depend directly or indirectly from independent claim 8, and claims 16-21 and 24 depend directly or indirectly from independent claim 15, the appellants respectfully request that claims 2-7, 9-14, and 16-24 are not unpatentable over the prior art of record.

(v) Other rejections

None.

8. CONCLUSION

For the above reasons, the appellants respectfully submit that the rejection of claims 1-24 under 35 U.S.C. §103(a) as being unpatentable over Bender in view of Willeneger is in error and should be reversed and the claims allowed.

Respectfully submitted,

Ivan Yukovic et al.

By: 

Steven A. May
Attorney for Appellants
Registration No. 44,912
Tel. No.: 847/576-3635
Fax No.: 847/576-3750

APPENDIX

1. In a broadband communication system, a method for allocating a communication resource that comprises a reverse link traffic channel, the method comprising steps of:
receiving a communication resource access request at a time that data received via the reverse link traffic channel is currently being demodulated; and
in response to receiving the communication resource access request, transmitting a grant of access to the reverse link traffic channel.
2. The method of claim 1, wherein the access grant is transmitted prior to completion of the demodulation of the data.
3. The method of claim 1, wherein the step of transmitting a grant of access to the reverse link traffic channel comprises steps of:
determining a time that a demodulator will be available;
determining a time that a grant of access to the reverse link traffic channel can be transmitted based on the time that the demodulator will be available; and
transmitting an access grant based on the received request and on the determined time that the grant of access to the reverse link traffic channel can be transmitted.
4. The method of claim 3, wherein the step of transmitting a grant of access to the reverse link traffic channel further comprises a step of determining a time that the demodulator will finish demodulating the received message.
5. The method of claim 3, wherein the step of transmitting a grant of access to the reverse link traffic channel further comprises a step of determining a time interval between the time that the demodulator will be available and the time that an access grant can be transmitted.
6. The method of claim 1, wherein the communication resource access request is a preamble.

7. The method of claim 1, wherein the access grant is an acknowledgment.
8. An apparatus for allocating a communication resource in a broadband communication system, wherein the communication resource comprises a reverse link traffic channel, the apparatus comprising:
- an access request detector that detects a receipt of a communication resource access request;
 - a demodulator that is capable of demodulating messages received via the reverse link traffic channel;
 - a means for generating a grant of access to the reverse link traffic channel and the demodulator in response to reception of the communication resource access request; and
 - wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel.
9. The apparatus of claim 8, wherein the access grant is generated prior to completion of demodulation of the message.
10. The apparatus of claim 8, wherein the a means for generating a grant of access to the reverse link traffic channel comprises:
- a means for determining a time that the demodulator will be available;
 - a means for determining a time of transmission of a grant of access to the reverse link traffic channel based on the determined time of demodulator availability; and
 - a means for generating an access grant based on the received communication resource access request and on the determined time of transmission of the access grant.
11. The apparatus of claim 10, wherein the means for generating a grant of access to the reverse link traffic channel further comprises a means for determining a time that the demodulator will finish demodulating the received message.

12. The apparatus of claim 10, wherein the means for generating a grant of access to the reverse link traffic channel further comprises a means for determining a time interval between the time that the demodulator will be available and the time that an access grant may be transmitted.

13. The apparatus of claim 8, wherein the access grant comprises an acknowledgment.

14. The apparatus of claim 8, wherein the communication resource access request comprises a preamble and wherein the access request detector comprises a preamble detector that detects a preamble in a received signal.

15. A communication device capable of operating in a broadband communication system, the communication device comprising:

- a receiver for receiving an communication resource access request;

- an access request detector coupled to the receiver that detects a receipt of the communication resource access request;

- a demodulator coupled to the receiver that is capable of demodulating messages received via a reverse link traffic channel;

- a means for generating a grant of access to the demodulator in response to reception of the communication resource access request;

- a modulator for modulating the access grant onto a radio frequency signal to produce a modulated access grant;

- a transmitter for transmitting the modulated access grant; and

- wherein the communication resource access request is received at a time that the demodulator is engaged in a demodulation of a message received via the reverse link traffic channel.

16. The communication device of claim 15, wherein the access grant is generated when the demodulator is engaged in a demodulation of an already received message.

17. The communication device of claim 15, wherein the a means for generating a grant of access to the reverse link traffic channel comprises:

a means for determining a time that the demodulator will be available;

a means for determining a time of transmission of a grant of access to the reverse link traffic channel based on the determined time of demodulator availability; and

a means for generating an access grant based on the received communication resource access request and on the determined time of transmission of the access grant.

18. The communication device of claim 17, wherein the means for generating a grant of access to the reverse link traffic channel further comprises a means for determining a time that the demodulator will finish demodulating the received message.

19. The communication device of claim 17, wherein the means for generating a grant of access to the reverse link traffic channel further comprises a means for determining a time interval between the time that the demodulator will be available and the time that an access grant may be transmitted.

20. The communication device of claim 15, wherein the communication resource access request comprises a preamble and wherein the access request detector comprises a preamble detector capable of detecting the preamble.

21. The communication device of claim 15, wherein the access grant comprises an acknowledgment.

22. The method of claim 1, further comprising a step of determining an earliest time that a grant of access to the reverse link traffic channel can be conveyed to a mobile station and wherein transmitting comprises transmitting the grant of access to the mobile station at or after the determined earliest time.

23. The apparatus of claim 8, wherein the means for generating a grant of access to the communication channel comprises a means for determining an earliest time that a grant of

access to the reverse link traffic channel can be conveyed to a mobile station and wherein the apparatus further comprises a means for conveying the grant of access to the mobile station at or after the determined earliest time.

24. The communication device of claim 15, wherein the means for generating a grant of access to the communication channel comprises a means for determining an earliest time that a grant of access to the reverse link traffic channel can be conveyed to a mobile station and wherein the apparatus further comprises a means for conveying the grant of access to the mobile station at or after the determined earliest time.

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